Annual. Culms 10–15 cm, slender, erect, glabrous, densely hairy at nodes. Leaf-sheaths 1–2.5 cm long; ligule membranous, apically ciliate; leaf-blades linear-lanceolate, 1–4.5 x 0.1–0.2 cm, sparsely tuberculate-pilose on the upper surface. Raceme solitary, spiciform, to 3 cm, somewhat flexuous; pedicels obliquely articulate with callus. Spikelets up to 6 mm (arista & awn excluded). Glumes compressed, stiff-pilose from below the middle to the apex, scabrid along keels. Lower floret empty; upper one bisexual; awn of upper glume to 3.5 mm; upper lemma 3.5– 5.5 mm, cleft above, awn at sinus 0.8–1.5 cm long. Stamens 2. Caryopsis linear, to 2.5 mm, laterally compressed. Common in fallow fields and sandy tracts, during rainy season.

Specimens examined: Pudukottai Dist., Narthamalai: S.J. Britto. RHT 29660, 30576, 30577, 30578 (RHT, K).

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43. *DIODIA* LINN. (RUBIACEAE): A NEW GENERIC REPORT FROM INDIA

(With a text-figure)

We collected specimens of a Rubiaceae species from the Sree Narayana College Campus and adjacent areas in Chathannoor, near the coastal town of Quilon in Quilon District, Kerala, South India. Detailed study of the vegetative and floral characters of the plant revealed its distinctness from all the known Indian Rubiaceous genera. Subsequently the plant was identified as *Diodia teres* Walter by the Royal Botanic Gardens, Kew. As none of the Indian Floras, past or present, deal with any species of *Diodia* L., the present paper is a new record for the genus in India. According to Kew, *D. teres* is a New World species, so far reported outside the New World only from Angola, Senegal and Japan. This collection is thus a new record to the Indian Flora.

Diodia L. is closely allied to *Spermacoce* L. (in the broad sense) and *Richardia* L. in the general vegetative and floral characters, but is distinct from both in the mode of dehiscence of the fruit. While the fruit is a schizocarp in both *Diodia* and *Richardia*– splitting into 2 cocci in the former and into more than 2 cocci in the latter—the fruit is a variously dehiscent septicidal capsule in *Spermacoce*.

As the taxon is new to Indian Flora, a description and drawings made on the basis of study of fresh specimens are presented here for the benefit of Indian botanists.

Diodia teres Walter sensu lato (Steyermark in Mem. New York Bot. Garden. 23: 799 (1972)).

Annual erect to diffuse herb. *Stem* 4-angled, to 30 cm long, hirsute-hairy. *Leaves* sessile, linear-elliptic to lanceolate, upto 3.5 cm long and 1 cm broad with recurved scabrous margins, acute to acuminate apex ending in a stiff arista, broadly cuneate to round base, midrib prominently impressed above and raised below, veins 4–5, obscure above, slightly raised below, puberulous above and below, prominently so on the raised veins below with strigose hairs added on both sides and broad leaf base; Stipular sheath more or less truncate at apex, strigose outside with 8 to 9 linear slender teeth upto 1 cm long, shortly hairy at the base, glabrous otherwise, insterspersed with more or less club-shaped glandular hairs. *Flowers* 1 to 4 per axil, sessile. *Sepals* 4, short, subequal, triangular-acute, scabrous on the margins, persistent. *Corolla* mauve, funnel-form, tube 4 to 5 mm long with a ring of short hairs at the base, glabrous otherwise on the inside, lobes 4, triangular-ovate, acute–apiculate at apex, 2 to 3 mm long, as broad as long or slightly less, puberulous on the outside with a few bristly hairs towards the tip. *Stamens* 4, inserted at the mouth of the tube, anthers short, 2-celled, filament as long as or shorter than the anther. *Ovary* 2 mm long, half as broad as long, shortly hairy towards the apex and glabrous towards the base, 2 celled, each cell with a

single basal axile ovule; disc small and annular; style slender, about 4.5 mm long, bluntly tuberculate towards the apex; stigma capitate, 2–lobed, papillate. *Fruit* obovate to spherical with the persistent calyx teeth, 3.5 to 4 mm long, shortly hairy towards the apex, glabrous towards the base, splitting into 2 indehiscent cocci and falling at maturity from the leaf axil, Seeds flattened-obovate, smooth, pale brown, concave on the ventral face with a longitudinal ridge, apically incurved.

The herbarium specimen Ravi 2429 A, Chathannoor, 6-7-1988, has been deposited in the Kew Herbarium, England, and its duplicates 2429 B, 2429 C and 2429 D have been deposited in the CNH, Howrah, MH, Coimbatore and Sree Narayana College Herbarium, Quilon, respectively.

We thank the Director, Royal Botanic Gardens, Kew, for identifying the taxon.

N. RAVI
N. ANILKUMAR
December 13, 1988. T.K. BALACHANDRAN

44. A NOTE ON THE ANOMALOUS FLOWERING BEHAVIOUR IN *CURCUMA CAESIA* (ZINGIBERACEAE)

(With a text-figure)

Flowering behaviour (flowering season and position of inflorescence) is a key character in delimitation of *Curcuma* species. Normally, those species that flower in autumn (autumnal) possess central spikes arising from the centre of the leafy tuft while those that flower in summer (vernal) have lateral spikes arising from the lateral buds of rhizome or sessile tubers, before leaf formation.

Normal flowering has been observed in *C. longa, C. decipiens, C. pseudomontana, C. peethapushpa* (section Mesantha) which exhibited autumnal flowering with central spikes and in *C. aromatica, C. zeodaria, C. comosa, C. caesia* (section Exantha) which exhibited vernal flowering with lateral spikes. *C. caesia* (Black zeodary; section Exantha), however, exhibited anomalous flowering behaviour this year by producing both lateral and central spikes within a short span of time during late summer (Fig. 1). Some plants of a population of *C. caesia* grown at Vellanikkara produced lateral spikes initially and a few other plants of the same population produced central spikes after about two weeks.

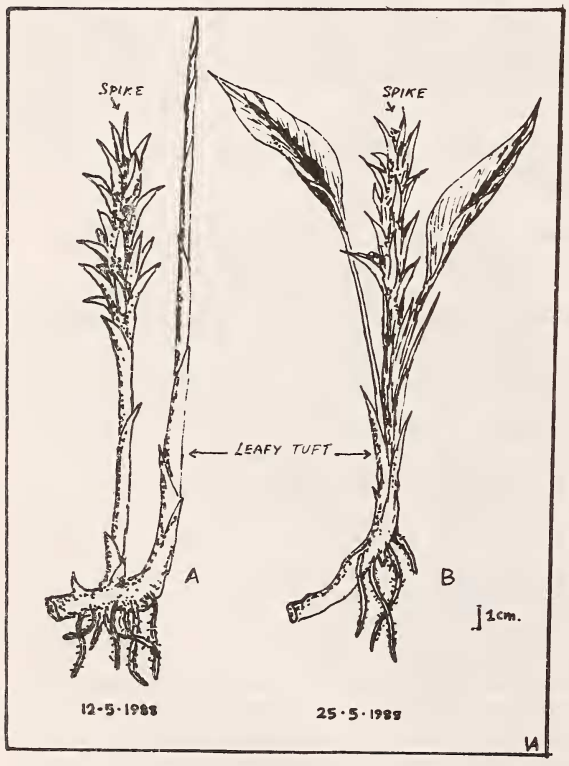

Fig. 1. *Curcuma caesia* exhibiting bothy lateral (A) and central (B) spikes within a short span of 2 weeks.

Santapau (1953) recorded lateral spikes in summer and later, central spike in monsoon from *C. pseudomontana* plant. This type of anomaly has also been reported from another Zingiberaceae plant, *Zingiber officinale* by Velayudhan *et al.* (1983). Such anomalies in the genus *Curcuma* have been a point of great controversy (Manilal and Sivarajan 1982). Past reports on the genus by Santapau (1953 & 1958) and Chavan & Oza (1966) supported the view of Roxburgh (1810) that the flowering spikes' position in *Curcuma* was seasonal and its value as a basic key for species delimitation was doubtful. Lately, Saldhana and Nicolson (1976) had also expressed similar views. However, as noted by Burtt (1972), before deciding the validity of flowering behaviour as a key character for identification, further observations on seasonal flowering behaviour in other species of *Curcum* are needed.